

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

CLAIMS

1. (currently amended) An aerial recovery system for an aircraft, said system comprising;

the aircraft and

an arrestment line held up at ~~at least one~~ an upper end by structure supported by a base, a lower end of the arrestment line also being connected to the base.

said aircraft containing a capturing device for capturing said line, said capturing device being comprising a hook positioned laterally of a longitudinal axis of said aircraft, said hook being adapted to releasably secure said line to said aircraft.

said aircraft containing structure suitable for deflecting said line laterally into engagement with said ~~capturing device~~ hook, said structure comprising a wing of said aircraft.

Claims 2 and 3 canceled.

4. (currently amended) The aerial recovery system of claim 3 ~~where~~ 1 in which said hook has a line retaining device.

5. (original) The aerial recovery system of claim 1 in which said capturing device is positioned on a forward inboard edge of a wing of said aircraft.

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

6. (original) The aerial recovery system of claim 1 in which the capturing device is located inboard of the aircraft's wingtip.

7. (original) The aerial recovery system of claim 6 in which the capturing device is located inboard more than 5% of the wing semi-span.

8. (original) The aerial recovery system of claim 1 in which multiple generally vertically oriented arrestment lines are spaced apart across the direction of travel of said aircraft as it approaches for recovery so as to increase the lateral capture envelope of said recovery system.

9. (currently amended) The aerial recovery system of claim 1 in which said aircraft comprises a wing swept at least fifteen degrees, ~~line is deflected inboard relative to the aircraft.~~

Claims 10 and 11 canceled.

12. (currently amended) The aerial recovery system of claim 1 wherein the arrestment line is held up by a mast pole.

13. (previously presented) The aerial recovery system of claim 1 wherein said arrestment line is held up by a slender structural member.

Claims 14-17 canceled.

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

18. (currently amended) In combination, a flying object and an apparatus adapted for capturing the flying object,

the flying object having a spanwise lifting surface with a capture device ~~forward of a forward edge of the lifting surface, the capture device comprising a hook adapted to releasably secure the aircraft to the apparatus,~~ the flying object being adapted for flying along a flight path,

the apparatus comprising:

~~a generally linear fixture~~ an arrestment line positionable in the flight path of the flying object, at least a portion of the ~~fixture~~ arrestment line being inclined at an angle relative to the spanwise lifting surface to intersect the ~~forward~~ leading edge of the spanwise lifting surface, the ~~fixture having an engaging surface~~ arrestment line being positioned to engage the capture device of the flying object to releasably secure the flying object to the ~~fixture apparatus;~~ and

a support structure coupled to the ~~fixture~~ arrestment line at two spaced-apart positions and positioned to support a portion of the fixture arrestment line between said positions in the flight path.

19. (currently amended) The combination of claim 18 wherein the ~~fixture~~ arrestment line includes a cable or pole.

Claims 20-21 canceled.

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

22. (currently amended) The combination of claim 24 18 wherein the ~~at least~~
one hook includes a latch.

Claims 23-33 canceled.

34. (currently amended) In combination, a flying object and an apparatus
adapted for capturing the flying object, the combination comprising:

a) a ~~linear fixture~~ line suspended across the flight path of the object in an
orientation which includes a component normal to the flight path;

b) support structure, supported by a base, suspending the ~~fixture line~~, a lower
end of the line being restrained to prevent the line from blowing freely in the wind; and

c) a device attached to the flying object adapted for intercepting the sliding of the
~~fixture line~~ along a forward leading edge of a wing or spanwise lifting surface of the
flying object and holding the flying object to the line.

35. (currently amended) The combination of claim 34, wherein the ~~linear fixture~~
line is a cable.

Claim 36 canceled.

37. (currently amended) The combination of claim 34, wherein the device
adapted for intercepting the sliding of the ~~fixture line~~ comprises ~~at least one~~ a hook on a
wing or spanwise surface of the flying object, the hook including a line retaining device.

38. (currently amended) The combination of claim 34, wherein each ~~said~~ hook
includes ~~a cleat or latch~~ an inner throat smaller than the diameter of the line so as to

Appi. No. 10/764,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

generate a sufficient amount of braking force such that after the fixture line is intercepted by the hook, sliding of the fixture line through the hook is substantially arrested.

39. (currently amended) The combination of claim 34, wherein the motion of the flying object during deceleration is accommodated by compliance of the fixture line.

Claim 40 canceled.

41. (currently amended) In combination, a flying object and an apparatus for capturing the flying object, the combination comprising:

a) means a suspension adapted for suspending a linear-~~fixture~~ line across the flight path of the object in an orientation which includes a component normal to the flight path, such that the suspension of the fixture line is kept clear of said flight path by a distance greater than the height or width of said flying object;

b) ~~means for suspending the fixture~~ an energy absorbing device connected to a lower end of the line; and

c) ~~means attached to a hook on a wing or spanwise lifting surface of the flying object and extending forward of a leading edge of the wing or spanwise lifting surface adapted for intercepting the fixture line and releasably securing the flying object to the line, said aircraft containing structure suitable for deflecting said line laterally into engagement with said hook.~~

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

42. (currently amended) The combination of claim 41, wherein the ~~fixture~~ line is a cable.

Claims 43 and 44 canceled.

45. (currently amended) The combination of claim 41, wherein ~~each~~ the hook includes ~~a cleat or latch~~ an inner throat smaller than the diameter of the line so as to generate a sufficient amount of braking force such that after the ~~fixture~~ line is intercepted by the hook, sliding of the ~~fixture~~ line through the hook is substantially arrested.

46. (currently amended) The combination of claim 41, wherein the motion of the flying object during deceleration is accommodated by compliance of the ~~fixture~~ line.

Claims 47-50 canceled.

51. (previously presented) The aerial recovery system of claim 1 wherein the arrestment line is held up by a beam and wherein the beam is mounted to move under the force of the aircraft's striking the arrestment line.

52. (previously presented) The aerial recovery system of claim 1 wherein the arrestment line and the capturing device are configured to restrict sliding of the aircraft along the line after the line is guided into connection with the hook.

53. (currently amended) The aerial recovery system of claim 4 54 wherein the arrestment line is restrained at a lower end to prevent the arrestment line from ~~swinging~~ blowing freely in the wind.

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

54. (new) An aerial recovery system for capturing an aircraft on a water craft, said system comprising;

the aircraft and

an arrestment line connected to said water craft, said arrestment line being held up at at least one end,

said aircraft containing a hook adapted for capturing said line and releasably securing said aircraft to said arrestment line, said hook being positioned laterally of a longitudinal axis of said aircraft,

said aircraft containing structure suitable for deflecting said line laterally into engagement with said hook, said structure comprising a wing of said aircraft, said wing of said aircraft being swept at least fifteen degrees.

55. (new) The system of claim 54 wherein said hook comprises a retaining structure adapted to prevent said arrestment line from disengaging from said hook.

56. (new) The system of claim 54 wherein the hook extends around forward of the line after capture of the line.

57. (new) The system of claim 54 wherein the arrestment line is held up by a lifting device comprising a structure requiring a relative wind to generate lift.

58. (new) The system of claim 1 wherein the base comprises the ground.

59. (new) The system of claim 1 wherein the base comprises a water craft.

Appl. No. 10/754,251
Response dated January 6, 2006
To Office Action dated November 8, 2005

60. (new) The system of claim 1 wherein the hook extends around forward of the line after capture of the line.

61. (new) The system of claim 1 wherein the lower end of the line is connected to the base through an energy-absorbing device.

62. (new) The system of claim 1 wherein said system comprises a single arrestment line.

63. (new) The system of claim 1 wherein said system includes more than one hook and more than one arrestment line.

64. (new) The combination of claim 18 wherein the hook is positioned forward of a line defined by the leading edge of the wing inboard of the hook.

65. (new) The combination of claim 18 wherein the wing is swept at least fifteen degrees.

66. (new) The combination of claim 34 wherein the wing is swept at least fifteen degrees.

67. (new) The combination of claim 34 wherein an energy absorbing device is attached to the lower end of the line.

68. (new) The combination of claim 41 wherein the wing is swept at least fifteen degrees.